

WHAT IS CLAIMED IS:

1. A semiconductor structure comprising: a substrate, a $\text{Sn}_x\text{Ge}_{1-x}$ layer formed over the substrate, and a Ge-Sn-Si layer formed over the $\text{Sn}_x\text{Ge}_{1-x}$ layer.
2. The semiconductor structure of claim 1 wherein the substrate comprises silicon.
3. A method for synthesizing a compound having the molecular formula $\text{H}_3\text{Si-GeH}_3$, the method comprising combining $\text{H}_3\text{SiO}_3\text{SCF}_3$ with KGeH_3 under conditions whereby H_3SiGeH_3 is obtained.